

This Guidance Card can assist you in improving electrical safety during your safety walkarounds.
It is provided only as an example, for you to adapt to your own organization's needs.



GUIDANCE CARD

LA-UR-05-6362

Number: OSH.05c	Functional Area: Occupational Safety and Health
Rev: 3 (5/05)	Topic: Researchers/Technicians/Electrician Electrical Safety

References: LIR 402-600-01.3, Electrical Safety, March 11, 2004
 LIG 402-600-01.2 Electrical Safety Implementation Guide, June 5, 2003
 29 CFR 1910 Subpart S, 29 CFR 1910 Subpart K
 NFPA 70E
 Integrated Work Management for Work Activities, IMP 300.2. February 9, 2005

Performance Expectations

- Power disconnects and circuit breakers are clearly marked and properly maintained.
 - Panel board schedules are secured inside cabinet door.
 - Disconnect switches are labeled to indicate what is being controlled.
 - There are no unguarded openings, open conduits, unused openings in circuit breaker panel enclosures, exposed conductors, broken receptacles or missing cover plates.
 - Guarding and enclosures are maintained for electrical services.
 - Receptacles that are out doors or in areas that are routinely wet have ground fault circuit interrupters receptacles (GCFIs).
 - Over-current protective devices (i.e., circuit breakers or fuses) are located so they can be easily and quickly reached (readily accessible).
 - Adequate working clearance in front of electrical panels is maintained (i.e., 30 inches wide, 36 inches deep, and 6 1/2 feet high extending from the floor.) Greater clearance for more than 150 volts to ground is required.
- Cord-connected equipment is listed (UL, CSA, etc.) and labeled either by a Nationally Recognized Testing Laboratory (NRTL) or a qualified Electrical Safety Officer.
 - Connections are secure, not cracked, have insulation intact, and have appropriate ground prongs.
 - Cords are not spliced and terminations are in good condition and secure.
 - Equipment is being used for its intended purpose.
 - Portable GFCI receptacles are used to protect workers using cord and plug connected hand tools.
- Workers use extension cords appropriately.
 - Extension cords are used only for a short term (e.g., for portable or hand-held equipment like drills).
 - Extension cords are not plugged into other extension cords or temporary power taps.
 - Cords are routed so they are not subject to physical damage.
 - Flexible cords are connected with enough slack to prevent tension on terminals.
- Work on or near exposed energized electrical equipment is done according to NFPA 70E and the tables in LIG 402-600-01.2 (Important items, voltage and energy level, type of hazard, mode of operation and hazard controls).
- Workers use protective equipment based on hazard identification tables in NFPA 70E, if appropriate. PPE shall include as a minimum eye protection, hand protection, shorting hooks, associated cable clamps, and any other necessary PPE. Shorting hooks and cable clamps have been tested and are in good condition.
- Employees have the electrical safety training and knowledge (documented OJT and formal classroom in accordance with a training plan) appropriate for their work tasks. Workers can describe the training received and the electrical hazards and safety practices in their area
- Workers report all electrical accidents (e.g., electrical shocks, burns) to their supervisor and are transported to HSR-2 immediately.
- Workers shall not use unlisted, cord connected equipment per LIR402-600-01.3.
 - Equipment is examined for safety by a Laboratory ESO.

Procedure:

- Review Integrated Work Document and Guidance Card.
- Review applicable procedures for the operation.
- Observe electrical/electronic work.
- Interview workers and supervisors about electrical safety issues and training
- Record observations based on comparison to guidance card and IWD

Questions: For workers

1. Do you always have adequate work space/clearance? If you do not, what do you do and to whom report this?
2. Are all cords routed so they are not pinched or across walking areas? Are any of your cords damaged?
3. Where and why do you use GFCIs?
4. When do you perform Lockout/Tagout? Do you work on electrical equipment when it is turned on? Where? Why (COMPELLING REASON?)
5. What PPE do you use for this work? How do you know that is safe to use for this work? What PPE that you use needs to be tested? How often is it tested?
6. What electrical safety training have you had? Is it current? How do you know? Do you feel the training you have received is adequate for the work you do? How could it be improved? Have you had the site-specific training?
7. Do you have an IWD for the work you are performing? May I see it? Do you have any training or safety-related issues that were not resolved before starting this job? Does that ever happen? If so, what do you do?

NOTICE: Copyright 2005. The Regents of the University of California. These data were produced by the University of California at Los Alamos National Laboratory under Contract Number W-7405-ENG-36 for the United States Department of Energy. The United States Government is granted for itself and others acting on its behalf a paid-up, nonexclusive, irrevocable worldwide license in this data to reproduce, prepare derivative works, distribute copies to the public, perform publicly and display publicly, and to permit others to do so by or on behalf of the Government. NEITHER THE UNITED STATES NOR THE UNITED STATES DEPARTMENT OF ENERGY, NOR THE UNIVERSITY OF CALIFORNIA, NOR ANY OF THEIR EMPLOYEES, MAKES ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUMES ANY LEGAL LIABILITY OR RESPONSIBILITY FOR THE ACCURACY, COMPLETENESS, OR USEFULNESS OF ANY DATA, INFORMATION, APPARATUS, PRODUCT OR PROCESS DISCLOSED, OR REPRESENTS THAT ITS USE WOULD NOT INFRINGE PRIVATELY OWNED RIGHTS.